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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,084	04/06/2000	Asgeir Saebo	CONLINCO-4286	7973
72960	7590	03/13/2009	EXAMINER	
Casimir Jones, S.C. 440 Science Drive Suite 203 Madison, WI 53711			WANG, SHENGJUN	
			ART UNIT	PAPER NUMBER
			1617	
			MAIL DATE	DELIVERY MODE
			03/13/2009	PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ASGEIR SÆBO and CARL SKARIE

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Appeal 2008-3663  
Application 09/544,084  
Technology Center 1600

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Decided<sup>1</sup>: March 13, 2009

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Before DONALD E. ADAMS, DEMETRA J. MILLS, and ERIC GRIMES,  
*Administrative Patent Judges.*

ADAMS, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1-18 and 31, which are all the claims pending in the application.

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

Claims 1 and 31 are illustrative of the subject matter on appeal and are reproduced below:

1. A method for producing a food product containing conjugated linoleic acid esters comprising:
  - a) providing:
    - i) linoleic acid esters,
    - ii) an alcoholate catalyst,
    - iii) a foodstuff;
  - b) treating said linoleic acid esters with said alcoholate catalyst to provide conjugated linoleic acid esters; and
  - c) combining said foodstuff with said conjugated linoleic acid esters from step (b) to produce a food product.
  
31. A method for producing a food product containing conjugated linoleic acid esters comprising:
  - a) providing:
    - i) linoleic acid esters,
    - ii) an alcoholate catalyst,
    - iii) a foodstuff;
  - b) treating said linoleic acid esters with said alcoholate catalyst to provide conjugated linoleic acid esters;
  - c) treating said conjugated linoleic acid esters under conditions such that the volatile organic compound content of said conjugated linoleic acid esters is less than 5 ppm after storage;  
[and]
  - d) combining said foodstuff with said conjugated linoleic acid esters from step (c) to produce a food product.

The references relied upon by the Examiner are:

Baltes	US 3,162,658	Dec. 22, 1964
Cook	US 5,760,082	Jun. 2, 1998
Cain	WO 97/18320	May 22, 1997

The rejection presented by the Examiner is as follows:

Claims 1-18 and 31 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Cook, Cain, and Baltes.

We affirm.

#### CLAIM GROUPING

While not expressly stated, Appellants appear to provide separate arguments with regard to claim 31 (*see* App. Br. 18-19). Accordingly, we interpret Appellants' arguments as defining the following two groups of claims: I. Claims 1-18 and II. Claim 31. Claims 1 and 31 are representative of the claims on appeal. 37 C.F.R. § 41.37(c)(1)(vii).

#### PRINCIPLES OF LAW

In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. *In re Fritch*, 972 F.2d 1260, 1265 (Fed. Cir. 1992). On appeal to this Board, Appellants must show that the Examiner has not sustained the required burden. *See* (1) *Ex parte Yamaguchi*, <http://www.uspto.gov/web/offices/dcom/bpai/prec/fd074412.pdf>, slip op. at 5 and 23 (BPAI Aug. 29, 2008) (precedential); (2) *Ex parte Fu*, <http://www.uspto.gov/web/offices/dcom/bpai/prec/fd080601.pdf>, slip op. at 5 and 20 (BPAI Mar. 31, 2008) (precedential); (3) *Ex parte Catan*, <http://www.uspto.gov/web/offices/dcom/bpai/prec/fd070820.pdf>, slip op. at 3 and 21 (BPAI Jul. 3, 2007) (precedential), and (4) *Ex parte Smith*, <http://www.uspto.gov/web/offices/dcom/bpai/prec/fd071925.pdf>, slip op. at 4, 9 and 23 (BPAI Jun. 25, 2007).

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, \_\_\_, 127 S. Ct. 1727, 1739 (2007).

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that is was obvious under § 103.

*Id.* at 1742. It is proper to “take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. 398, \_\_\_, 127 S.Ct. at 1741. *See also id.* at 1742 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”). “In determining whether obviousness is established by combining the teachings of the prior art, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *In re GPAC Inc.*, 57 F.3d 1573, 1581 (Fed. Cir. 1995) (internal quotations omitted).

The optimization of a range or other variable within the claims flows from the “normal desire of scientists or artisans to improve upon what is already generally known.” *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003) (determining where in a disclosed set of percentage ranges the optimum combination of percentages lies is prima facie obvious). In *In re Aller*, 220 F.2d 454, 456 (CCPA 1955), the court set forth the rule that the discovery of an optimum value of a variable in a known process is usually obvious. *See also In re Boesch*, 617 F.2d 272, 276 (CCPA 1980)

("[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art.").

Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) ("Any arguments or authorities not included in the brief or a reply brief . . . will be refused consideration by the Board, unless good cause is shown.").

*Claim 1:*

#### ISSUE

Does the combination of Cook, Cain, and Baltes make obvious the treatment of linoleic acid esters with an alcoholate catalyst to provide conjugated linoleic acid esters that may be subsequently incorporated into a food product?

#### FINDINGS OF FACT

FF 1. The Examiner finds that "Cook teaches a food product containing conjugated linoleic acids, their esters, salts or mixtures" (Ans. 3). The Examiner finds that Cook teaches that the conjugated linoleic acid may be in the forms of, *inter alia*, esters, such as triglycerides (Ans. 4).

FF 2. The Examiner finds that "Cook teaches that employment of alkali catalyst for making [a] conjugated linoleic acid moiety . . . is known. See, particularly, example 1, in column 2" (*id.*).

FF 3. Cook teaches the "synthesis of conjugated linoleic acids (CLA) from linoleic acid and safflower oil" (Cook, col. 2, ll. 15-44). Appellants disclose that "a variety of sources of linoleic acids are contemplated, including, but not limited to safflower, sunflower, and corn oil" (Spec. 5: 4-5).

FF 4. The Examiner finds that “Cook does not teach expressly to employ alcoholic catalyst for isomerization of linoleic acid to obtain CLA” (Ans. 4).

FF 5. The Examiner finds that

Baltes teach that isomerization of linoleic acid compounds to conjugated linoleic acid compounds by alcoholate catalysts, such as potassium methylate is well known. See, particularly, the examples 2-4 and the claims. The employment of alkali monohydric alcoholate has advantage that isomerization is possible without using more than stoimetical [sic] amounts of alkali metal alcoholate. See column 2, lines 31-35.

(Ans. 4.)

FF 6. The Examiner finds that Cain “teaches that it is well-known in the art that antioxidants, such as vitamin E or BHT, is known to be useful in food product[s] containing conjugated linoleic acid compounds, e.g., conjugated linoleic acid ester” (*id.*).

#### ANALYSIS

Based on the combination of Cook, Cain, and Baltes the Examiner concludes that

[I]t would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed the [sic] invention was made, to employ alcoholate catalyst, such as potassium methylate, for isomerization of linoleic acid to obtain CLA, or to incorporate conjugated linoleic acid derivatives, including esters, as well as antioxidant in a food product, wherein the CLA is free of volatile organic compounds and free of oxidation.

(Ans. 5.) Simply stated, the Examiner finds that “it is a fact that the employment of CLA as a food ingredient was known, it is a fact that using alcoholic catalyst for making CLA was also known. The employment of

CLA made by alcoholic catalyst for food would have been obvious to one of ordinary skill in the art” (Ans. 6; FF 1-3).

Appellants contend that “the Baltes reference indicates that the uses the products are suited for are industrial in nature” and that such products “are not suitable for consumption” (App. Br. 8). Appellants contend that “it is not obvious to simply use a process that was previously used for the production of CLA for industrial uses with a method for food production” and “[n]othing in the Baltes et al. reference teaches or suggest[s] the desirability -- or even applicability -- of using the methods disclosed therein to produce food products” (*id.*). Appellants rely on the Sæbo Declaration to support this contention (*id.*; *see also* App. Br. 11). Specifically, Appellants contend that the Sæbo Declaration provides evidence that “one cannot conclude that the CLA resulting from the alcoholate catalysis process is suitable for use in products meant for oral consumption” and that the oils Baltes uses to prepare conjugated linoleic acid esters “are generally unsuitable for obtaining CLA for nutritional uses because the refinement results in products with substantial amounts of breakdown products and unwanted polymers, especially when conjugated” (App. Br. 11; Sæbo Dec. 1-2: ¶¶ 4-5).

We are not persuaded. There is no evidence on this record to suggest that the use of Cook’s linoleic acids obtained from safflower oil in Baltes’ alcoholate catalysis process for the production of CLA will result in a product that is not suitable for oral consumption. In this regard, we recognize Appellants’ disclosure that safflower oil is an acceptable source of linoleic acid (FF 3). Therefore, notwithstanding Appellants’ contention to the contrary, we find no conflict in Baltes’ use of linoleic acids obtained



from soybean, cottonseed, linseed, or fish oils for the production of industrial grade CLAs, and Cook's use of linoleic acids obtained from safflower oil for the production of food grade CLAs (*see, e.g.*, App. Br. 16 ("Baltes fails to address the use of CLA made by these methods in food products")) (emphasis removed)). In sum, there is no evidence on this record to support a conclusion that simply because Baltes does not disclose the use of an alcoholate catalysis process for the preparation of food grade conjugated linoleic acid esters, Baltes' process cannot be used to prepare food grade conjugated linoleic acid esters. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 550 U.S. 398, \_\_\_, 127 S. Ct. at 1739.

#### CONCLUSION OF LAW

The preponderance of evidence on this record supports a conclusion that the combination of Cook, Cain, and Baltes makes obvious the treatment of linoleic acid esters with an alcoholate catalyst to provide conjugated linoleic acid esters that may be subsequently incorporated into a food product.

The rejection of claim 1 under 35 U.S.C. § 103 as being unpatentable over the combination of Cook, Cain, and Baltes is affirmed. Claims 2-18 fall together with claim 1.

*Claim 31:*

### ISSUE

Would a person of ordinary skill in the art optimize the concentration of a volatile organic component in a composition comprising conjugated linoleic acid esters to less than 5 ppm after storage in view of the combined teachings of Cook, Cain, and Baltes?

### FINDING OF FACT

FF 7. The Examiner finds that “Cook teaches that any solvent in CLA should be removed under vacuum, and CLA is stored in a condition [sic] non oxidation would happen (under Argon, in dark and low temperature) before the CLA could be used in food product[s]. See, particularly, column 2, lines 40-47” (Ans. 4). Specifically, Cook teaches that hexane used in the preparation of CLA is “removed under vacuum with a rotoevaporator to obtain the CLA. The CLA is stored in a dark bottle under argon at -80 C. until time of use” (Cook, col. 2, ll. 42-45).

### ANALYSIS

Based on the combined teachings of Cook, Cain, and Baltes, the Examiner concludes that the “limitation [in Appellants’ claim 31] of the volatile organic compound (VOC) in food product (whether it is the limitation after storage or before storage) is considered an optimization of a result effective parameter, which is considered within the skill of the artisan” (Ans. 5-6).

Appellants contend that “the amount of VOC is not a result effective variable, it is a property which results from the proper treatment and handling of the CLA” (Ans. 18). We are not persuaded.

Cook teaches the removal of the volatile organic component used to prepare the CLA (FF 7). The choice of whether to remove all the volatile organic component or leave some residual amount in the CLA is within the skill of the art and reasonably dependent on the ultimate use of the CLA, e.g., as an ingredient in food products. As such the amount of volatile organic component removed from the CLA product is a matter of routine optimization on the part of a person of ordinary skill in this art.

#### CONCLUSION OF LAW

The preponderance of the evidence on this record supports a conclusion that a person of ordinary skill in the art would optimize the concentration of a volatile organic component in a composition comprising conjugated linoleic acid esters, intended to be used as a component of a food product, to less than 5 ppm after storage in view of the combined teachings of Cook, Cain, and Baltes

The rejection of claim 31 under 35 U.S.C. § 103 as being unpatentable over the combination of Cook, Cain, and Baltes is affirmed.

Appeal 2008-3663  
Application 09/544,084

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

Ssc:

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